

**IN THE CLAIMS**

Please amend the claims as follows:

1 17. (Currently Amended) A synchronization pulse detector, comprising:

2 a shape detector for processing samples of an input signal having a synchronization pulse  
3 and a plurality of non-synchronization pulses to determine whether such samples have a  
4 predetermined sequence;

5 said predetermined sequence being a first, non-time varying portion, followed by a first,  
6 time-varying portion, followed by a second, non-time varying portion, followed by a second,  
7 time-varying portion, followed by a third, non-time varying portion, one of the first and second,  
8 time-varying portions having a positive slope and the other one of the first and second, time-  
9 varying portions having a negative slope;

10 wherein the slope of the time varying portions are determined by comparing said input  
11 signal to a specified criterion based in part of the various slope requirements for the time varying  
12 portions

13 a time window for determining whether said samples are produced at a predetermined  
14 rate expected for the series of synchronization pulses; and

15 a voltage window for determining whether the average value of one of said second time-  
16 varying portions is substantially lower or the same as, but higher than the lower DC value  
17 detected within the time-equivalent of a segment of video.

1 18. (Previously Presented) The detector as claimed in claim 17, wherein said shape detector  
2 produces a pulse when said predetermined sequence is detected.

1 19. (Currently Amended) A synchronization pulse detector, comprising:

2 a shape detector for processing samples of an input signal having a series of  
3 synchronization pulses and a plurality of non-synchronization pulses to determine whether such  
4 samples have a predetermined sequence;

5 said predetermined sequence being a first, non-time varying portion, followed by a first,  
6 time-varying portion, followed by a second, non-time varying portion, followed by a second,  
7 time-varying portion, followed by a third, non-time varying portion, one of the first and second,  
8 time-varying portions having a positive slope and the other one of the first and second, time-  
9 varying portions having a negative slope, wherein the slope of the time varying portions are  
10 determined by comparing said input signal to a specified criterion based in part of the various  
11 slope requirements for the time varying portions;

12 said shape detector producing a shape detection pulse each time said predetermined  
13 sequence is detected; and

14 a time window for determining whether said shape detection pulse is produced at a  
15 predetermined rate expected for the series of synchronization pulses; and

16 a voltage window for determining whether the average value of one of said second time-  
17 varying portions is substantially lower or the same as, but higher than the lower DC value  
18 detected within the time-equivalent of a segment of video; and

19 an evaluator responsive to the produced shape pulse detection pulses for determining  
20 whether such shape detection pulses are produced at a predetermined rate expected for the series  
21 of synchronization pulses.

1 20. (Currently Amended) A synchronization pulse detector, comprising:

2 a shape detector for processing samples of an input signal having a series of  
3 synchronization pulses and a plurality of non-synchronization pulses, each one of said  
4 synchronization pulses preceding a segment of the input signal having non-synchronization  
5 pulses, to determine whether such samples have a predetermined sequence;

6 said predetermined sequence being a first, non-time varying portion, followed by a first,  
7 time-varying portion, followed by a second, non-time varying portion, followed by a second,  
8 time-varying portion, followed by a third, non-time varying portion, one of the first and second,  
9 time-varying portions having a positive slope and the other one of the first and second , time-  
10 varying portions having a negative slope, wherein the slope of the time varying portions are  
11 determined by comparing said input signal to a specified criterion based in part of the various  
12 slope requirements for the time varying portions;

13 said shape detector producing a shape detection pulse and an associated value for the  
14 second, non-time varying portion each time said predetermined sequence is detected; and

15 a time window for determining whether said shape detection pulse is produced at a  
16 predetermined rate expected for the series of synchronization pulses; and

17 a voltage window for determining whether the average value of one of said second time-  
18 varying portions is substantially lower or the same as, but higher than the lower DC value  
19 detected within the time-equivalent of a segment of video; and

20 an evaluator responsive to the produced shape detection pulses and said associated values  
21 of said second, non-time varying portions for determining whether one of said associated values

of said produced second, non-time varying portions is substantially higher, lower, or the same as a reference value derived from a previous segment of the input signal.

21. (Cancelled)

22. (Currently Amended) A method for detection of a synchronization pulse from an input signal having a plurality of non-synchronization pulses, comprising:

determining time-varying properties of the input signal having the synchronization pulse;

and

detecting, from said determined, time-varying properties of the input signal the presence of the synchronization pulse; and

determining whether the average value of one of said time-varying portions is substantially lower or the same as, but higher than the lower DC value detected within the time-equivalent of a segment of video.

23. (Currently Amended) A method for detection of a synchronization pulse from an input signal having a plurality of non-synchronization pulses, comprising:

determining time-varying slopes of an input signal having the synchronization pulse;

comparing the determined time-varying slopes with time-varying slopes expected of the synchronization pulse; ~~and~~

producing, based on the comparison, an output signal indicative of the detection of the synchronization pulse;

determining whether said output signal is produced at a predetermined rate expected for the series of synchronization pulses; and

10        determining whether the average value of one of said time-varying portions is  
11        substantially lower or the same as, but higher than the lower DC value detected within the time-  
12        equivalent of a segment of video.

1        24. (Currently Amended) A method for detection of a synchronization pulse having a  
2        substantially non-time varying portion and a substantially time-varying portion, the method  
3        comprising:  
4                determining time varying slopes of one of the portions;  
5                comparing the determined time-varying slopes with time-varying slopes expected of the  
6        one of the portions of the synchronization pulse; and  
7                producing, based on the comparison, an output signal indicative of the detection of the  
8        synchronization pulse;  
9                determining whether said output signal is produced at a predetermined rate expected for  
10        the series of synchronization pulses; and  
11        determining whether the average value of one of said time-varying portions is  
12        substantially lower or the same as, but higher than the lower DC value detected within the time-  
13        equivalent of a segment of video.

1        25. (Currently Amended) A method for detection of a synchronization pulse within an input  
2        signal, such pulse having a substantially non-time varying portion and a substantially time-  
3        varying portion, the method comprising:  
4                determining time-varying slopes of the input signal to identify one of the portions;

5 comparing the determined time-varying slopes with time-varying slopes expected of the  
6 one identified one of the portions of the synchronization pulse; and

7 producing, based on the comparison, an output signal indicative of the detection of the  
8 synchronization pulse;

9 determining whether said output signal is produced at a predetermined rate expected for  
10 the series of synchronization pulses; and

11 determining whether the average value of one of said time-varying portions is  
12 substantially lower or the same as, but higher than the lower DC value detected within the time-  
13 equivalent of a segment of video.

1 26. (Currently Amended) A method for detection of a synchronization pulse within each of a  
2 sequence of input signals having a predetermined rate, such pulse having a substantially non-  
3 time varying portion and a substantially time-varying portion, the method comprising:

4 determining time-varying slopes of each of the sequence of input signals to identify one  
5 of the portions of such one of the input signals;

6 comparing the determined time-varying slopes with time-varying slopes expected of the  
7 one identified one of the portions of the synchronization pulse;

8 producing, based on the comparison, output signals indicative of the detection of the  
9 synchronization pulses of the sequence of input signals; and

10 comparing rate of production of the output pulses with the predetermined rate of the input  
11 signals;

12 determining whether said output pulses are produced at a predetermined rate expected for  
13 the series of synchronization pulses; and

14 determining whether the average value of one of said time-varying portions is  
15 substantially lower or the same as, but higher than the lower DC value detected within the time-  
16 equivalent of a segment of video.

1 27. (Currently Amended) A system for detecting a synchronization pulse within an input signal,  
2 such synchronization pulse having a substantially non-time varying portion followed by a  
3 substantially time-varying portion, the system comprising:

4 a waveform characteristic detector for producing a detection signal in response to a  
5 comparison between actual slope variations in the input signal and a predetermined slope  
6 criterion representative of one of the portions of the synchronization pulse; and

7 a pulse generator for producing an output pulse in response to the detected signal  
8 produced by the waveform characteristic generator

9 a time window for determining whether said output pulse is produced at a predetermined  
10 rate expected for the series of synchronization pulses; and

11 a voltage window for determining whether the average value of one of said time-varying  
12 portions is substantially lower or the same as, but higher than the lower DC value detected within  
13 the time-equivalent of a last segment of video.

1 28. (Currently Amended) A system for detecting a synchronization pulse within an input signal,  
2 comprising:

3 an detector responsive to samples of the input signal for separating substantially an non-  
4 time varying portion of the input signal from a substantially time varying portion of the input  
5 signal;

6 a timer for determining a time duration of one of the portions; and  
7 a processor for detecting the synchronization pulse in response to the determined time  
8 duration; and  
9 a window mechanism for determining whether the average value of one of said time-  
10 varying portion is substantially lower or the same as, but higher than the lower DC value  
11 detected within the time-equivalent of a last segment of video.